

KONGSBERG 2013

Earth Evolution and Dynamics

The 26th Kongsberg seminar, 8-10 May 2013

Wednesday 8th of May

1600- Poster session and ice-breaker

Thursday 9th of May

0915-0930 *Bjørn Jamtveit (PGP)* Opening remarks

0930-0945 *Trond Torsvik (CEED)* CEED

0945-1030 *The Rosenqvist lecture*

Lars Stixrude (University College London)

GEOFYSICS OF CHEMICAL HETEROGENEITY IN THE DEEP MANTLE

1030-1045 Coffee break and Discussions

Linking Plate Tectonics with Deep Earth and Atmosphere

Deep Earth

Chair: Reidar Trønnes

1045-1130 Keynote: *Karin Sigloch (Munich University)* Slab sinking and paleogeographic inference: a North American case study from seismic tomography

1130-1200 *Bernhard Steinberger (GFZ-Potsdam)* Challenges in Mantle Plume Modelling

1200-1300 *Lunch*

Dynamic Earth

Chair: Carmen Gaina

1300-1330 *John Hopper (GEUS)* Arctic Plate Tectonics and the Life Cycle of Mantle Plumes

1330-1400 *Susanne Buiter (NGU/CEED)* Analysing Wilson Cycle plate margins

1400-1415 *Coffee break and Discussions*

Earth crises

Chair: Frode Stordal

1415-1500 *Keynote: Aradhna Tripathi (University of California) Climate Change in a Cenozoic Context*

1500-1530 *Stephan Sobolev (GFZ-Potsdam) Mantle plumes, large igneous provinces and environmental catastrophes*

1530-1545 *Coffee break and Discussions*

Earth and Beyond

Chair: Stephanie Werner

1545-1630 *Keynote: Lindy Elkins-Tanton (Carnegie Institution) Magma Ocean and Planetary Evolution*

1630-1700 *Bethany Ehlmann (CalTech) The Earliest Aqueous, Habitable (?) Environments on Mars: A View from Orbiters and Rovers*

Friday 10th of May

Fluid Earth

Fluid venting

Chair: Henrik Svensen

0915-1000 **Keynote: Ganna Portyankina (Univ of Bern) Martian "spiders": Surface erosion by spring sublimation jet activity in the polar regions of Mars*

1000-1030 **Øyvind Hammer (PGP/NHM) Sea floor pock marks*

1030-1100 **Martin Hovland (Statoil) Are salt domes ('diapirs') deep-rooted hydrothermal fluid and particulate conduits*

1100-1115 Coffee break and Discussions

Fluid expulsion

Chair: Olivier Galland

1115-1200 *Keynote: John Wheeler (Liverpool) Towards a unified model for deformation, metamorphism and fluid flow

1200-1245 *Keynote: David Bercovici (Yale) Turbulent two-phase "gas dynamics" for volcanoes

1245-1330 Lunch

Reaction fronts

Chair: Luiza Angheluta

1330-1415 *Keynote: Carl Steefel (Lawrence Berkeley Lab) Reaction Fronts: Microscopic and Macroscopic

1415-1445 *Bjørn Jamtveit, Håkon Austrheim, Ole Ivar Ulven, Christopher Hawkins ++ (PGP) Reactive transport and complex flow

1445-1500 Coffee break and Discussions

Rock flow

Chair: Marcin Dabrowski

1500-1545 *Keynote: Greg Hirth (Brown University) The role of fluids on the brittle-plastic transition in the crust

1545-1615 *Luiza Angheluta (PGP) Turbulence and plasticity

1615-1645 *Dani Schmid (PGP) Flows of viscous heterogeneous materials

1900- Conference dinner